

REMARKS

Reconsideration of the above identified patent application is hereby respectfully requested in view of the foregoing amendments and following remarks. Claim 9 has been canceled and claims 1, 2, 6, 10, 11, 12, and 13 have been amended. Claims 18-24 have been withdrawn from consideration, pursuant to an election requirement by the Examiner. New base claim 25 has been added. Claims 1-8, 10-17, and 25 remain in the case.

The applicant appreciates the thoroughness of the review by Examiner Alexander Gilman.

1. Election of Species with Traverse. An election during a telephone conversation was made to prosecute the invention of group 1, claims 1-17. The election to prosecute group 1, claims 1-17 drawn to an electrical connector is made with traverse, after having further considered the basis cited by the Examiner.

The Examiner asserts that omission of a component (during assembly) can be determined not just by comparison of the respective epoxy volumes, as the method claims

recite, but also by "visual observation". That is believed to be impossible.

This connector is assembled in the field by unskilled labor. However, even if skilled labor were employed, the omission of a component or addition of an extra component is certainly still a possibility. However, there is no way to know whether this has occurred by any conceivable visual observation.

The connector is intended to meet a very difficult National Electrical Code (NEC) standard for Class 1, Division 1, Hazardous Locations. This includes environments where explosive gases are present, for example, at oil and gas well-heads.

The connector is formed of many component parts that are assembled in a particular order. None of these components is transparent, nor can they be made transparent and still meet specifications. Steel, for example, is required as well for many component parts to provide the mechanical protection as well as the electrical ground path that is required. X-ray is not a viable option to determine assembly to view parts through numerous layers of steel and

various alloys, certainly not at a remote location in the field where the connector is to be assembled.

Furthermore, many layers of assembly of components, one on top of the other, would render visual observation impossible. Even if a novel (not presently known) transparent type of outer component that could meet the required NEC standard were developed and used other components underneath may be omitted or included where not intended.

The overall connector, when assembled in the field, includes a fixed volume. If a component is omitted, this cannot be seen from the outside. If an extra component is added, this too cannot be seen. The only way to tell is if the volume of epoxy necessary to fill the remaining voids in the connector after assembly is beyond tolerance.

It is respectfully suggested that the position of the Examiner, while understandable, is in error. The measurement of the volume of epoxy is the only way possible to determine if the assembly has been successfully accomplished. It is the only way to ensure that all required components have been installed, and further that they have been installed in

the proper location, and further, that no additional (i.e., excess) components have been installed.

If either were to occur (too few or too many parts installed during assembly), this indicates an error and any error would result in a connector that is not certified to meet the specified NEC classification.

It is respectfully submitted, that the verification of the volume of epoxy used to determine proper assembly is both necessary and is exceptionally novel, by and of itself.

It is respectfully requested that the Examiner reconsider the need for this election restriction and reverse his decision. The undersigned will be pleased to represent the currently withdrawn claims, inclusive of comparable amendments as made herein to the base apparatus claims, sufficient to bring these claims into a comparable condition of allowance, subsequent to a rescission by the Examiner for the need for the election restriction.

2. The recitation of 35 U.S.C. 112 second paragraph and the rejection of claim 1 thereunder, is noted.

Claim 1 has been amended to remove the "means plus function" recitations where noted by the Examiner and to replace them with a positive recitation. Accordingly, the rejection is believed to be overcome and reconsideration is respectfully requested.

3. The recitation of 35 U.S.C. 102 (b) and 103 (a) is noted as are the rejections applied to claims 1-5, 11, 15-17 (under 102 (b)) and claims 6-10, 12, 13 and 14 (under 103 (a)).

Claim 1 has been amended to include the limitations of canceled claim 9 which include (paraphrasing) a sealing grommet with a groove that is adapted to receive at least one ground wire.

There is no suggestion by Colescott et al or Dewdney to provide a sealing grommet that includes a groove, as claimed.

The cited references show no recognition of the problem encountered in field assembly of a connector that is intended to meet Class 1, Division 1, Hazardous Location use, as defined by the National Electrical Code (NEC).

To meet this standard, it is necessary, among other things, to provide a satisfactory electrical ground that also includes a satisfactory mechanical connection to maintain the ground. Referring to **FIG. 6** of the disclosure, the ground wire 20 passes through the groove in the sealing grommet and extends over the housing.

Where it not for the groove in the sealing grommet, the exact location where the ground wire is to be cut and the terminal ring lug (ref 44, see **FIG. 7**) is to be attached in order to provide the required electrical and mechanical connection (ref 48) could not be determined with sufficient accuracy to assemble the connector.

The groove in the sealing grommet allows this important aspect of assembly to occur. The sealing grommet provides the electrical insulation and environmental sealing that is required to protect the conductors. The sealing grommet also provides the substantial and unexpected benefit of allowing access to the ground wire from the outside of the connector during assembly, sufficient to allow the ground wire to be cut to a proper and precise length, have the ring attached, and then accomplish final mechanical and electrical connection of the ground wire to the housing, all of which is done in plain view and easy access.

Furthermore, this is all accomplished after the power contact pins (ref 34) have been inserted into the housing, where they latch. Absent the sealing grommet with the groove in it, if there were an error in the length of the ground wire that occurred during assembly prior to insertion of the power contact pins then the error in the length of the ground wire could not be corrected without removing the power contact pins and destroying the connector in the process. This is a surprising benefit absent the prior art. The prior art is silent to this benefit because they do not anticipate the problems encountered when meeting the Class 1, Division 1, Hazardous Location NEC standard, especially for a field assembled connector.

These are especially significant and surprising benefits not anticipated by the prior art that are provided by the claimed structures of the sealing grommet.

A sealing grommet with a groove is an element absent the cited prior art and would therefore also be absent any applied combination thereof. Claim 1 includes this as an element thereof and is believed to be patentably distinct over the cited prior art references.

Accordingly, the rejections applied to claim 1 and all remaining dependent claims is believed to be overcome and reconsideration is respectfully requested.

Other amendments made to remaining dependent claims 2, 6, and 10-13 are to correct errors in antecedent basis that arise as a result of the amendments made herein.

New claim 25 includes the limitations of original claim 1 after the "means plus function" amendments have been accomplished. The further limitations of claims 16 and 17 have been included in new claim 25. Claim 25 now also recites, "and wherein said housing includes a ninety degree radius and wherein said housing is formed of one piece".

The device of Vetter et al., while including a ninety degree radius, is formed of two pieces. This is not a design option whereby someone of ordinary skill could conceivable form the housing of Vetter et al. from one piece, as instant claim 25 presently recites and requires.

The reason is that Vetter et al., solves a different problem (connecting cables of different diameters) and his housing must split in order to allow access to the cables. See Vetter et al. column 2, lines 42-51 where the backshell

(i.e., housing) can vary from 45 degrees to 180 degrees (straight through) but in all cases, "the backshell labeled 24 is composed of two sections 26 and 28 held together by a plurality of screws 30..."

The instant claimed device includes, as a further limitation, a one piece housing that includes a ninety degree radius. A ninety degree one piece housing is an element absent Vetter et al. and absent all of the cited prior art.

The instant specification teaches that the housing includes the power contact pins all of which have a 90 degree radius. The instant housing is an assembly component that is supplied to the field for field attachment (i.e., assembly) of a Class 1, Division 1, Hazardous Location connector. A two piece housing that must somehow be assembled, provide adequate insulation, seal the voids, and then seal the two piece housing in such a manner that the entry or exit of an explosive gas cannot occur is not possible.

The one piece ninety degree housing provides an unexpected benefit absent the teachings of Vetter et al., and that is to provide for a housing that includes a ninety

degree radius and which meets the required NEC standards when used as a component of the claimed field attachable connector. The environment in which the invention is practiced, as recited in the preamble to the base claims, is "for use with MC-HL cable", which is for attachment to a particular type of cable that also meets the required standard. The two piece housing of Vetter et al., cannot be used with an MC-HL cable and meet this standard for a field attachable type of connector.

New claim 25 includes elements (ninety degree one piece housing), in combination, that are absent the known prior art and which would be absent any applied combination thereof. Accordingly, new claim 25 is believed to be in condition of allowance and consideration thereof is respectfully requested.

Payment in the amount of \$104.00 is enclosed for the presentation of new base claim 25, which is the fourth base claim (\$86.00) and the 25th total claim (\$18.00).

The prior art made of record and not relied upon that is considered pertinent to the applicant's disclosure has been reviewed by the undersigned, but is deemed no more relevant than the applied references.

Support for all amendments made herein is found in the canceled or previously presented claims, and throughout the specification.

Replacement drawings were submitted on August 4, 2004. Please enter the replacement drawings, if acceptable.

As all remaining claims 1-8, 10-17, and 25 appear to be in condition of allowance, reconsideration thereof is respectfully requested, and a notice of allowance is courteously urged at the earliest time. Reconsideration of the need for an election of species is also respectfully requested.

The applicant appreciates the opportunity to communicate with the Examiner as necessary. Please continue to direct all correspondence to the correspondence address and telephone as shown below.

Respectfully submitted,

 8/27/04

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